

New Thysanoptera from Florida—III.

By J. R. WATSON, Gainesville, Fla.

(Plates V and VI)

Aeolothrips floridensis n. sp. (Plate V, figs. 1-3).

♀.—*Measurements*.—Total body length 1.7 mm.; head, length 0.17 mm., width 0.2 mm.; prothorax, length 0.16 mm., width 0.25 mm.; mesothorax, width 0.25 mm.; metathorax, width 0.37 mm.; abdomen, width, 0.4 mm.

Antennae: Segment 1, 32; 2, 53; 3, 129; 4, 95; 5, 70; 6, 13; 7, 12; 8, 15; 9, 12 microns; total, 0.4 mm.

Color, dark brown with much red pigmentation, which is particularly marked on the lighter pterothorax and base of abdomen.

Head about one-fifth longer than wide, elevated a little between the antennae; cheeks slightly arched, diverging very slightly posteriorly; there are no prominent spines but minute papillae with short hairs occur along the cheeks; dorsal surface with minute cross striations.

Eyes prominent, black, with large facets, sparsely pilose, oval in dorsal aspect but greatly elongated on the ventral surface, where they end in rather a sharp point. *Ocelli* present, approximate, the posterior pair not touching the margins of the eyes.

Mouth cone acute, reaching beyond the middle of the prothorax.

Antennae nine-segmented, segments 1 and 2 concolorous with the head, segment 3 and the basal half of 4 yellow, the very tip of 3 and the remainder brown. Sense areas on segment 3 greatly elongated. Spines rather numerous but short. Those on segments 2 and 3 dark, the others colorless. Two on the dorsal surface of the second segment near the anterior end are a little stouter and longer than the others, while between and a little anterior to their bases is a dark, round papilla.

Prothorax more than half again as wide as long, a little shorter than the head; sides quite markedly bulging and diverging posteriorly, deeply notched in the middle; without prominent spines.

Mesothorax much wider than the prothorax, markedly rounded at the anterior angles, without spines.

Metathorax narrower than the mesothorax, sides moderately convex, converging posteriorly, no spines.

Legs rather long, concolorous with the body (i. e., reddish brown) except the tarsi which are light brown, without the reddish pigmentation; fore femora but slightly enlarged; tibiae with a short spine at the anterior end. Legs sparsely furnished with short but rather thick curved hairs.

Wings moderately long, membrane of the fore pair reaching to about

the end of the abdomen. Near the end of the posterior border the wings are densely margined with long brown hairs, none on the basal portion. On the anterior margin the hairs are rather short and sparse. The posterior half of the wing is shaded a decided but not very dark brown and is clothed with short hairs, as is also the hind wing; the second longitudinal vein has heavy dark brown spines. Hind wings nearly as long as the fore, no brown longitudinal shading as in the fore pair; on the anterior margin the hairs are rather short and dense.

Abdomen spindle-shaped, abruptly narrowing at the seventh segment. One or two short, weak, curved, inconspicuous spines on the lateral margin of each segment. On the eighth and ninth there are eight very long stiff spines; two much shorter ones at the end of the abdomen.

Described from a single female taken on oats with *Acolothrips bicolor* at Gainesville, Florida, April 26, 1914.

Type in the National Museum.

*Key to North American species of Acolothrips.**

1. Fore wings with dark cross bands.
 - a. Wings with cross veins.
 - b. Last 4 segments of antennae much longer than the 5th; abdominal segments 2 and 3 and the posterior half of 1 white or yellow*Ae. bicolor*, Hinds.
 - bb. Last four segments of antennae little if any longer than the fifth.
 - c. Prothorax and segments 2 and 3 of the abdomen white*Ae. albocinctus*, Haliday.
 - cc. Without white bands.....*Ae. fasciatus*, Linn.
 - aa. Wings without cross veins. Last four segments of antennae about 1.25 times as long as the fifth.....*Ae. nasturtii*, Jones†
2. Fore wing with a dark longitudinal band along posterior margin.
 - a. With normal veins in the anterior wings.
 - b. Antennal segment 3 about as long as 1 and 2 together; segment 4 brown*Ae. kurvanii*, Moulton
 - bb. Antennal segment 3 about 1.5 as long as 1 and 2 together; basal half of segment 4 yellow.

Ae. floridensis, n. sp.
 - aa. Anterior wings without veins*Ae. longiceps*, Crawford

* Modified from that of Moulton, 1911, U. S. Bur. Ent., Tech. Ser. No. 21.

† Hood, in Ent. News, xxvi, p. 162, expresses the opinion that this species is the male of *Ae. kurvanii*.

Anthothrips floridensis n. sp. (Plate VI, figs. 10 to 12).

♀.—*Measurements*.—Length 1.3 mm. (1.1 to 1.5). Head, length 0.19 mm., width 0.18 mm.; prothorax, length 0.16 mm., width 0.26 mm.; mesothorax, width 0.29 mm.; abdomen, width 0.29 mm.; tube, length 0.107 mm., width at the base 0.049 mm., at the end 0.035 mm.; antennae, segment 1, 20.4; 2, 41; 3, 40; 4, 49; 5, 41; 6, 36; 7, 37; 8, 26 microns; total length 0.276 mm.

Color dark brown, fore tarsi and tibiae yellow, mid- and hind-tarsi light brown; segments 1 and 2 of antennae dark brown; 3, yellow; base of 4 and 5 yellowish brown; tips of 4 and 5 light brown; 6, light brown; 7 and 8 dark brown. Eyes reddish brown.

Head a little longer than broad; cheeks slightly arched, without warts, posterior portion of dorsal surface quite noticeably transversely striated. Ocelli large and well separated, posterior pair placed about opposite the middle of the eyes whose margins they nearly touch, dark brown; postocular bristles well developed, sharp-pointed. Mouth cone shorter than its breadth at the base and very rounded at the tip, reaching to about three-fourths the length of the prothorax.

Antennae eight-segmented, not as long as the width of the mesothorax, segments short and stout, the fourth a little thicker and considerably longer than the others, sense cones short.

Prothorax considerably wider than long when measured to outer angles of the coxae, somewhat triangular in outline, sides converging anteriorly, a spine on each posterior angle.

Mesothorax somewhat wider than prothorax, sides nearly parallel but somewhat narrowed in the middle.

Legs short, fore femora but slightly thickened.

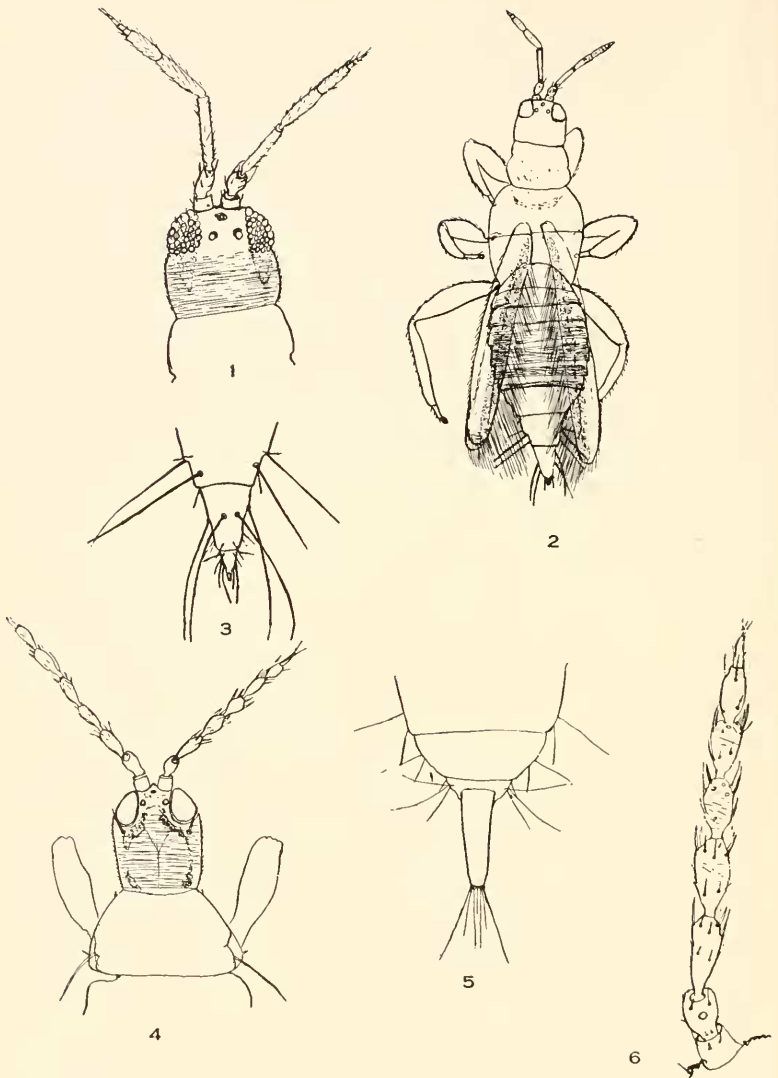
Wings well developed, membrane reaching nearly or quite to the end of the tube in most individuals; decidedly constricted in the middle; hairs of the fringe long and nearly equal, in a single row except on the hind border of the fore wing where there are eight hairs of a second row.

Abdomen about as wide as mesothorax, usually widest at the base from which it slopes to the tip, gradually at first and then more abruptly. Tube rather small and short, tapering but little, six terminal spines longer than the tube, and a number of shorter ones. Spines on the remainder of the abdomen weak and inconspicuous.

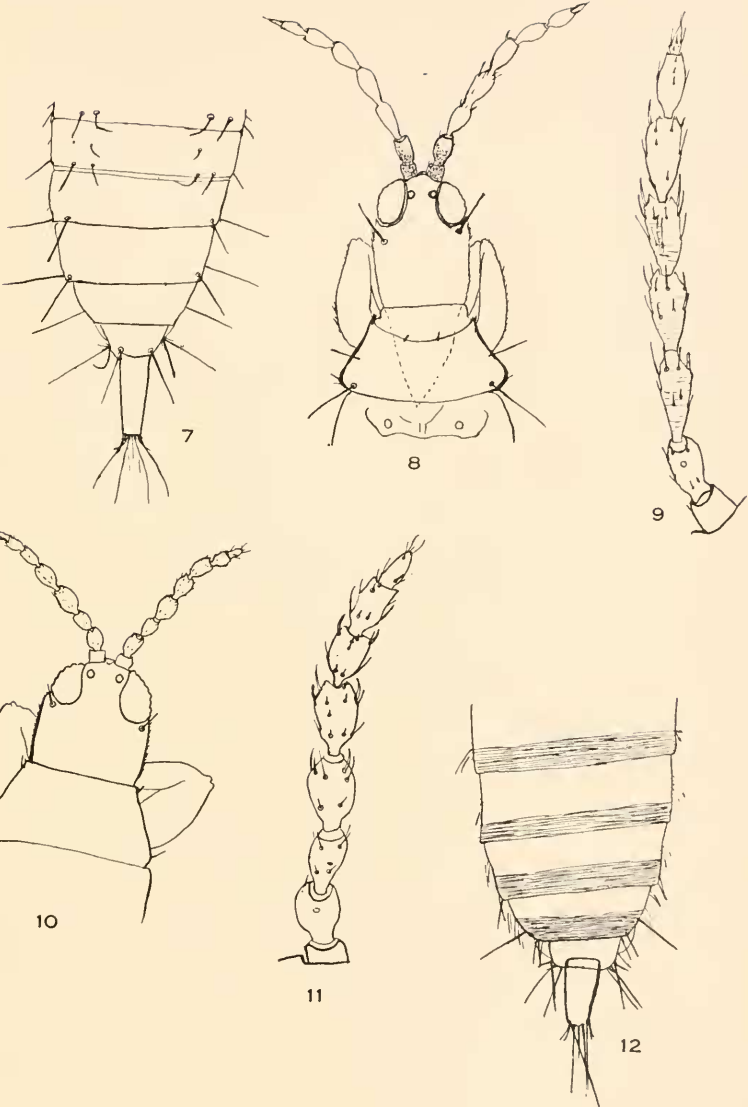
Described from nine specimens, Gainesville, Florida, April 22, 1914. Food plant maize. Male not seen.

The *type* is in the American Museum of Natural History, cotypes in the author's collection.

This species differs from *A. niger* (Osborn) in its smaller size, the presence of the post-ocular bristles, the relative



1-3, AEOLOTHRIPS FLORIDENSIS;
4-6, LIOTHRIPS CARYAE FLORIDENSIS—WATSON.



7-9 LIOTHRIPS FLAVOANTENNIS;
10-12 ANTHOTHRIPS FLORIDENSIS-WATSON.

lengths of the antennal segments, especially the greater length of the fourth, in the relative dimensions of prothorax, head and abdomen, in the shape of the abdomen, and in the long hairs on the tube. From *A. variabilis* Crawford it differs in its smaller size, in the sharp tips of the post-ocular bristles, the longer mouth cone, the shorter antennae, relative size of head and prothorax, shape of pterothorax, the weak spines of the abdomen, and the relative lengths of the antennal segments, especially the fifth.

The following key (modified from that of P. R. Jones, U. S. Bur. Ent., Tech. Series, Bull. No. 23, pt. I, 1912) will enable one to separate the North American species of *Anthothrips*.

1. Postocular spines wanting; antennae almost uniformly brown except segment 3 and base of 4, which are light brown....*A. niger*, Osborn
2. Postocular spines well developed.
 - a. Postocular spines and most of those on the postero-lateral margin of abdominal segments knobbed.....*A. flavipes*, Jones
 - aa. Postocular and abdominal spines not knobbed.
 - b. Apex of femora with a small, anteriorly directed, triangular tooth within; antennae uniformly brownish black*A. nigricornis*, Jones
 - bb. Apex of femora without such tooth.
 - c. Segments 3 to 6 of antennae bright yellow, abdominal spines (except those of the tube) slender and rather faint..*A. verbasci*, Osborn
 - cc. Segments 3 to 6 of antennae light brown, abdominal spines stout and conspicuous,

A. variabilis, Crawford
 - ccc. Only segment 3 of antennae wholly bright yellow; abdominal spines short and inconspicuous*A. floridensis*, n. sp.

***Liothrips flavoantennis* n. sp.** (Plate VI, figs. 7-9).

♀.—*Measurements*.—Total body length, 1.8 mm. Head, length 0.24 mm., width 0.185 mm.; prothorax, length 0.14 mm., width 0.31 mm.; mesothorax, width 0.365 mm.; abdomen, width 0.41 mm.; tube, length 0.19 mm., width at base 0.072 mm., at the end 0.038 mm. Antennae: Segment 1, 27; 2, 56; 3, 81; 4, 74.5; 5, 63; 6, 54; 7, 52; 8, 33 microns; total length 0.4 mm.

Color uniformly dark brown except the antennae. *Head* nearly one and one-third times as long as wide, sides slightly arched, widest a short distance behind the eyes, converging slightly behind; warts on the cheeks small and with small short spines, surface of the head showing rather faint cross striations, postocular spines long, stout, knobbed